

**REMARKS**

***In the Claims***

Independent claims 23, 29, and 38 have been amended to specify that the KDPGal aldolase comprises an amino acid sequence of SEQ ID NO:4. Support for this amendment can be found throughout the specification as followed, and at least at page 27, line 5 through page 28, line 37. Claims 46 and 50 have been amended to place them into independent format by reciting the limitations of the base claims from which each depended, and likewise specify that the KDPGal aldolase comprises an amino acid sequence of SEQ ID NO:4. Claim 38 has been amended for clarity and new claims 61-63 have been added to recite the features removed from claim 38. Support for these amendments can be found, for example, in the originally filed claims.

Claim 46 has been amended to remove the recitation of non-elected sequences. Claim 50 has been amended to clarify antecedent basis. Finally, claim 51 has been amended to recite three members of the markush group and claims 52 and 54-60 have been canceled.

The foregoing amendments have been made herein solely to expedite allowance. Nothing in the amendments or remarks should be interpreted as an acquiescence to the outstanding objections or rejections. Applicant does not intend to abandon any subject matter described in the application and may pursue claims of broader, narrower or the same scope in related applications. The amendments are supported by the originally filed specification and do not introduce any new matter.

***Informalities***

Claims 46, 52, and 54 were objected to for reciting non-elected SEQ ID NOS:2 and 6. Claim 46 has been amended to remove the recitation of the non-elected sequences, and claims 52 and 54 have been canceled. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of this objection.

Claims 59 and 60 were objected to for insufficient antecedent basis. These claims have been canceled. As such, Applicant respectfully submits that this objection has been obviated and requests withdrawal thereof.

***Claim Rejections - 35 USC §112 (Written Description)***

Claims 23-30, 38, and 46-60 were rejected under 35 USC §112, first paragraph, as allegedly failing to comply with the written description requirement.

More specifically, at page 4, the Examiner states that “*[I]t*he instant specification discloses KDPGal aldolases of the sequences of SEQ ID Nos. 2, 4, & 6...” However, there KDPGal aldolases are not representative of the genus of KDPGal aldolases...” (emphasis added). Without acquiescing to the rejection and solely in an effort to expedite prosecution, Applicant has amended the claims to specify that the KDPGal aldolase comprises SEQ ID NO:4 or specific mutants thereof, all of which are described in the specification as originally filed at page 27, line 6 through page 28, line 27.

In view of the foregoing amendments and remarks,, Applicant respectfully requests that the rejection of pending claims 23-30, 38, 46-51 and 53 be reconsidered and withdrawn.

***Claim Rejections - 35 USC §112 (Enablement)***

Claims 23-30, 38, and 46-60 were rejected under 35 USC §112, first paragraph, as allegedly failing to comply with the enablement requirement.

More specifically, at page 6 of the Office action, the Examiner states that “...the specification, *while being enabling for a method for converting pyruvate and E4P to DAHP, comprising contacting an isolated or recombinant KDPGal aldolase of sequence of SEQ ID NO:4 or specific mutants thereof with a solution containing pyruvate and E4P,* does not reasonably provide enablement for a method for converting pyruvate and E4P to DAHP, comprising contacting any isolated or recombinant KDPGal aldolase from any source with a solution containing pyruvate and E4P...” (emphasis added).

Without acquiescing to the rejection and solely in an effort to expedite prosecution, Applicant has amended the claims specify that the KDPGal aldolase comprises SEQ ID NO:4 or specific mutants thereof, all of which are described in the specification as originally filed at page 27, line 6 through page 28, line 27.

In view of the foregoing amendments and remarks, Applicant respectfully requests that the rejection of pending claims 23-30, 38, 46-51 and 53 be reconsidered and withdrawn.

**CONCLUSION**

For the foregoing reasons, Applicant respectfully submits that this Amendment and Response to Final Office Action places the application in condition for allowance. Accordingly, Applicant respectfully requests that the Examiner enter this Amendment and Response in the application. If the Examiner believes a telephonic interview would expedite the prosecution of the present application, the Examiner is welcome to contact the undersigned at the number below.

Respectfully submitted,

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